

What is claimed is:

1. An optical module, comprising:

an semiconductor optical device;

a stem for providing the semiconductor optical device;

5 a plurality of lead terminals extending along a predetermined axis from the stem, the lead terminals transmitting signals between the semiconductor optical device;

a substrate for providing an electronic circuit thereon; and

a base for mounting the substrate,

10 wherein the base extends along the predetermined axis from the stem and the lead terminals are electrically and directly connected to the electronic circuit provided on the substrate.

2. The optical module according to claim 1, wherein the stem is made of

15 a first material and the base is made of a second material different to the first material.

3. The optical module according to claim 2, wherein the base has an

edge portion adjacent to the stem, the second material of the edge portion of the
20 base containing the first material of the stem.

4. The optical module according to claim 3, wherein a ratio of the first

material to the second material in the edge portion of the base gradually decreases from the stem to a point apart from the stem.

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5. The optical module according to claim 3, wherein at least edge

portion is formed by the sintering.

6. The optical module according to claim 1, wherein the stem and the base are made of the same material and are formed in unity.

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7. The optical module according to claim 1, wherein the lead terminals and the base sandwiches the substrate therebetween.

8. The optical module according to claim 1, wherein the semiconductor optical device is a semiconductor laser diode.

9. The optical module according to claim 1, wherein the semiconductor optical device is a photo diode.

15 10. The optical module according to claim 1, wherein the semiconductor optical device is a semiconductor laser diode and a photo diode, the optical module constituting an optical transceiver.